

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A high strength titanium copper alloy consisting of Ti at 2.0% by mass or more to 3.5% by mass or less;
the balance of copper and inevitable impurities; and
the average grain size of 5 to 15 μ m;
the alloy further comprising a 0.2% proof stress expressed by "b" of 800 N/mm² or more;
an electrical conductivity of 12.5 to 15.3% IACS; and
a bending radius ratio (bending radius/sheet thickness) not causing cracking as expressed by "a" by a W-bending test in a transverse direction to a rolling direction;
wherein "a" and "b" satisfy ~~a ≤ 0.05xb - 40~~, a ≤ 0.05xb - 40,
the titanium copper alloy is obtained by performing final recrystallization annealing at a temperature below a borderline temperature T of an α -phase and an α +Cu₃Ti phase, and
when the borderline temperature T is approximated in formula y = 50x + 650, where x (%) is the concentration of Ti, the final recrystallization annealing is performed at a temperature ranging from (T-60)°C to (T-10)°C in which a part of contained Ti is precipitated.
2. (Withdrawn) A high strength titanium copper alloy consisting of Ti at 2.0% by mass or more to 3.5% by mass or less;
at least one of Zn, Cr, Zr, Fe, Ni, Sn, In, Mn, P, and Si at 0.01% by mass or more to 3.0% by mass or less in total; and
the balance of copper and inevitable impurities;

the alloy further comprising an average grain size of 20 μm or less;
a 0.2% proof stress expressed by "b" of 800 N/mm² or more; and
a bending radius ratio (bending radius/sheet thickness) not causing cracking as

expressed by "a" by a W-bending test in a transverse direction to a rolling direction;

wherein "a" and "b" satisfy $a \leq 0.05xb - 40$.

3. (Canceled)

4. (Canceled)

5. (Withdrawn) The high strength titanium copper alloy according to claim 2,

wherein the titanium copper alloy is obtained by performing final recrystallization annealing at a temperature below a borderline of an α -phase and an $\alpha+\text{Cu}_3\text{Ti}$ phase.

6. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 1, characterized by performing final recrystallization annealing at a temperature below a borderline of an α -phase and an $\alpha+\text{Cu}_3\text{Ti}$ phase.

7. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 2, characterized by performing final recrystallization annealing at a temperature below a borderline of an α -phase and an $\alpha+\text{Cu}_3\text{Ti}$ phase.

8. (Withdrawn) The manufacturing method for a high strength titanium copper alloy according to claim 6;

wherein the alloy is cooled, after final recrystallization annealing, at a cooling rate of 100°C/sec or more;

cold worked at a working ratio of 5 to 70%; and

subjected to an aging process for 1 hour or more to 15 hours or less at a temperature of 300°C or more to 600°C or less.

9. (Withdrawn) The manufacturing method for a high strength titanium copper alloy according to claim 7;

wherein the alloy is cooled, after final recrystallization annealing, at a cooling rate of 100°C/sec or more;

cold worked at a working ratio of 5 to 70%; and

subjected to an aging process for 1 hour or more to 15 hours or less at a temperature of 300°C or more to 600°C or less.

10. (Original) A terminal connector using a high strength titanium copper alloy according to claim 1.

11. (Withdrawn) A terminal connector using a high strength titanium copper alloy according to claim 2.

12. (Previously Presented) A high strength titanium copper alloy which is subjected to an aging process after press working, the alloy consisting of:

Ti at 2.0% by mass or more to 3.5% by mass or less; and

the balance of copper and inevitable impurities;

the alloy further comprising a grain size of 5 to 15 μm ; and

an electrical conductivity of 12.5 to 15.3% IACS;

wherein cracking does not occur by a W-bending test in a transverse direction to a rolling direction with a bending radius of zero before the aging process, and the hardness of the worked matrix after the aging process is 310 Hv or more.

13. (Withdrawn) A high strength titanium copper alloy which is subjected to an aging process after press working, the alloy consisting of:

Ti at 2.0% by mass or more to 3.5% by mass or less;

at least one of Zn, Cr, Zr, Fe, Ni, Sn, In, Mn, P, and Si at 0.01% by mass or more to 3.0% by mass or less in total; and

the balance of copper and inevitable impurities;
the alloy further comprising a grain size of 5 to 15 μm ;
wherein cracking does not occur by a W-bending test in a transverse direction to a rolling direction with a bending radius of zero before the aging process, and the hardness of the worked matrix after the aging process is 300 Hv or more.

14. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 12, comprising the steps of:

performing final recrystallization annealing at a temperature below a borderline of an α -phase and an $\alpha+\text{Cu}_3\text{Ti}$ phase to adjust the grain size to 5 to 15 μm ; and

performing final cold rolling at a working ratio of 5 to 50%.

15. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 13, comprising the steps of:

performing final recrystallization annealing at a temperature below a borderline of an α -phase and an $\alpha+\text{Cu}_3\text{Ti}$ phase to adjust the grain size to 5 to 15 μm ; and

performing final cold rolling at a working ratio of 5 to 50%.

16. (Original) A terminal connector using a high strength titanium copper alloy according to claim 12.

17. (Withdrawn) A terminal connector using a high strength titanium copper alloy according to claim 13.

18. (Canceled)

19. (Withdrawn) A high strength titanium copper alloy consisting of:

Ti at 2.0% by mass or more to 3.5% by mass or less;
Zn at 0.05% by mass or more to 2.0% by mass or less;
at least one of Cr, Zr, Fe, Ni, Sn, In, Mn, P, and Si at 0.01% by mass or more to 3.0% by mass or less in total; and

the balance of copper and inevitable impurities;
the alloy further comprising a tensile strength of 1200 MPa or more and an electrical conductivity of 10% IACS or more.

20. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 18, comprising the steps of:

hot rolling at a temperature of 600°C or more;
cold rolling successively at a working ratio of 95% or more; and aging at a temperature of 340°C or more to less than 480°C for 1 hour or more to less than 15 hours while maintaining an agglomerated matrix after the cold rolling.

21. (Withdrawn) A manufacturing method for a high strength titanium copper alloy according to claim 19, comprising the steps of:

hot rolling at a temperature of 600°C or more;
cold rolling successively at a working ratio of 95% or more; and aging at a temperature of 340°C or more to less than 480°C for 1 hour or more to less than 15 hours while maintaining an agglomerated matrix after the cold rolling.

22. (Canceled)

23. (Withdrawn) A fork-shaped connector using a high strength titanium copper alloy according to claim 19.

24. (Canceled)

25. (Withdrawn) A high strength titanium copper alloy which is subjected to an aging process after press working, the alloy consisting of:

Ti at 2.0% by mass or more to 3.5% by mass or less;
Zn at 0.05% by mass or more to 2.0% by mass or less;
at least one of Cr, Zr, Fe, Ni, Sn, In, Mn, P, and Si at 0.01% by mass or more to 3.0% by mass or less in total; and

the balance of copper and inevitable impurities;
the alloy further comprising a worked matrix having a hardness of 345 Hv or
more after the aging process.

26. (Withdrawn) A manufacturing method for a high strength titanium copper
alloy according to claim 24, comprising the steps of:

hot rolling at a temperature of 600°C or more; and
cold rolling successively at a working ratio of 95% or more.

27. (Withdrawn) A manufacturing method for a high strength titanium copper
alloy according to claim 25, comprising the steps of:

hot rolling at a temperature of 600°C or more; and
cold rolling successively at a working ratio of 95% or more.

28. (Canceled)

29. (Withdrawn) A fork-shaped connector using a high strength titanium copper
alloy according to claim 25.